# The varying roles of ecosystem services in poverty alleviation among rural households in urbanizing watersheds


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**Abstract**

Context: Understanding the relationship between ecosystem services and human well-being in rural areas of rapidly urbanizing watersheds is one of the core research questions of landscape sustainability science. It is important for poverty alleviation and forming related policies. However, there is insufficient investigation on the impacts of ecosystem services on poverty alleviation on multiple scales in such region. Objectives: This paper investigates whether ecosystem services at the landscape level and household characteristics play important roles in connecting ecosystem services and poverty alleviation in a rapidly urbanizing landscape from the perspective of landscape sustainability science. Methods: We use an urbanizing watershed with a large number of poor people, analyzing the impacts of ecosystem services on poverty alleviation among different types of rural households based on surveys, nonparametric tests, and multinomial logit models. Results: The results suggested that differences in household-level endowments had significant impacts on poverty alleviation. In terms of ecosystem services, regional (village-level) food supply were significantly associated with poverty alleviation ($p < 0.1$); while household-level benefits from cultural services had a significant positive effect ($p < 0.01$) on households moving to the better-off group. Conclusions: Differentiating the roles of ecosystem services on poverty alleviation between landscape level and household level is important for policy making. In urbanizing watersheds, offering ecological compensations, and providing trainings and financial supports for rural poor people should be adopted to help them get out of poverty. © 2022, The Author(s), under exclusive licence to Springer Nature B.V.



**Author keywords**

Landscape sustainability science; Livelihood strategies; Sustainable development goals; Targeted poverty alleviation policies; Urban sustainability